UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 10
1200 Sixth Avenue
Seattle, WA 98101

MAR 15 2001

Reply To
Attn Of: OAQ-107

Certified Mail - Return Receipt Requested

Mr. Thomas Manson
Phillips Alaska, Inc.
Alpine Development Project
Alpine - HSE - ALP 14
P.O. Box 196860
Anchorage, Alaska 99519-6860

Re: Modifications to Test Method 20 for NSPS GG Turbines

Dear Mr. Manson:

The United States Environmental Protection Agency (EPA) has reviewed Phillips Alaska's February 14, 2001 letter that requested modifications to Reference Method 20 for initial performance tests of a turbine subject to NSPS Subpart GG, at Alpine Development Project, Alaska. EPA has determined that for this case, Phillip Alaska's modifications to Reference Method 20 are acceptable.

Phillip Alaska requested EPA to approve modifications to Reference Method 20, "Determination of Nitrogen Oxides, Sulfur Dioxide, and Diluent emissions from Stationary Gas Turbines" (40 C.F.R. Part 60, Appendix A). Specifically, Phillips Alaska requested the use of a 7 point multi-hole probe to identify the two ports with the lowest oxygen concentration, in-lieu of the oxygen traverse of the stack in accordance Reference Method 20 procedures. EPA believes that for this case, the modified method proposed by Phillips Alaska could generate acceptably accurate data; therefore, Phillips Alaska's request is approved.

If you have questions concerning this letter, please do not hesitate to contact Mr. Kai Hon Shum at (206) 553-2117.

Sincerely,

Douglas E. Hardesty, Manager
Federal and Delegated Air Programs Unit

KHS:DH:yd

cc: Jim Baumgartner (ADEC)

CONCURRENCES						
Initials:	DB					
Name:	SHUM					
Date:	3/15/01					

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If you have questions concerning this letter, please do not hesitate to contact Mr. Kai Hon Shum at (206) 553-2117.

Sincerely,

Douglas E. Hardesty, Manager
Federal and Delegated Air Programs Unit

KHS:DH:yd

cc: Jim Baumgartner (ADEC)

bcc: Kai Hon Shum (EPA)
John Pavitt (EPA)
Source File

Date 2-14-2001

Number of pages including cover sheet 3

FAX

TO: Kai Hon Shum
US EPA

Phone (206) 553-2117
Fax (206) 553-0110

FROM: Tom Manson
Alpine Development Project.
Mail Drop –ALP 14
P.O. Box 196860
Anchorage, AK 99519
Or Pouch
Phone (907) 670-4200
Fax (907) 670-4778

CC:

REMARKS: ☐ Urgent ☒ For your review ☐ Reply ASAP ☐ Please Comment

Tom,

Attached is a notification of NSPS performance test and a request for a minor modification of test method. The original will follow via US Mail. If you have any questions please call me or my Alternate, Shannon Donnelly, at (907) 670-4200.

Sincerely,

Tom Manson

Alpine Environmental Coordiantor

PHILLIPS Alaska, Inc.
A Subsidiary of PHILLIPS PETROLEUM COMPANY

Alpine Development Project
Alpine – HSE – ALP 14
P. O. BOX 196860
ANCHORAGE, ALASKA 99519-6860

Telephone 907- 670-4200
Facsimile 907- 670-4778

February 14, 2001

Certified Mail
Return Receipt Requested
7099 3220 0006 7749 0216

Mr. Kai Hon Shum
US Environmental Protection Agency
Region 10
1200 Sixth Avenue
Seattle, WA 98101

RE: Notification of NSPS Performance Test and Request for Minor Modifications of Test Method – Alpine Development Project – Main Gas Compressor (CF-C33012-TB)

Dear Mr. Shum:

Phillips Alaska, Inc. (PAI) operates a stationary gas turbine (CF-C33012-TB) that drives the main gas compressor at the Alpine Development Project (Alpine). Alpine is located in the Colville River Delta approximately 35 miles west of the Kuparuk River Unit (KRU) on the North Slope of Alaska. The turbine, which was commissioned (first fired) on October 18, 2000, is subject to federal New Source Performance Standards (40 CFR Part 60, Subpart GG). An initial performance test is tentatively scheduled for the week of March 20, 2001.

PAI requests U. S. EPA approval of a minor modification to Method 20, *"Determination of Nitrogen Oxides, Sulfur Dioxide, and Diluent Emissions from Stationary Gas Turbines"* (Appendix A of 40 CFR 60). PAI proposes to sample the exhaust from the rectangular stack of the NSPS-affected turbine using two multi-hole sample probes. The multi-hole probes will be designed and tested according to EPA Guidance Document GD-031, *"Evaluation Method for Multi-hole Sample Probes"*. For reasons discussed below, PAI proposes to sample each of the seven ports using the multi-hole probe to identify the two ports with the lowest oxygen concentration in lieu of the oxygen traverse of the stack in accordance with Reference Method 20 procedures (§6.1.2). For the performance test the samples would be extracted from the two ports which exhibited the lowest diluent (oxygen) concentration during the initial survey using the multi-hole probes.

The subject turbine has a rectangular exhaust stack equipped with seven sample ports located across the stack cross-section. Method 20 requires a preliminary oxygen traverse of each sample port for a total of 49 sample points (seven points per port). The actual performance test would require sampling a total of eight points through two ports. The unique nature of the stack would require the use of a straight sample probe approximately 10 feet long. During the majority of the sampling, a conventional probe would be exposed to the cold ambient air, requiring heat trace and insulation to prevent condensation and freeze-up. In addition, the insulation and heat trace that would be required for a conventional probe would deteriorate rapidly due to exposure to the stack exhaust temperature and velocity.

The use of the multi-hole probes will eliminate the exposure of the stack gas to cold ambient conditions and reduce the time to perform the tests at each load condition. During the preliminary oxygen traverse the probes would be moved between sample ports until the average diluent concentrations are recorded for all seven sample ports. After the two ports with the lowest oxygen concentrations are identified, the two probes would be installed in the stack for the remainder of the testing. There would be no need to move sample probes between ports.

PAI requests U.S. EPA approval of the use of the multi-hole probe for the performance test of the subject turbine at the Alpine facility. In consultation with Mr. Terry Harrison of U. S. EPA's Office of Air Quality Planning and Standards, Region 10 has previously approved the use of the multi-hole probe for NSPS performance tests of stationary gas turbines operated on the North Slope. Your timely review of our request would be greatly appreciated. If you have any questions or require additional information, please do not hesitate to contact Shannon Donnelly or Tom Manson at (907) 670-4200 or via e-mail at N1508@ppco.com.

Thank you for your consideration.

Sincerely,

Thomas Manson

Shannon Donnelly/Thomas Manson
Alpine Environmental Coordinator

cc: J. Baumgartner – ADEC
T. Pilon - ADEC
J. Alger – SECOR International, Inc.